

DETAILED ACTION

Response to Amendment

1. The amendment filed 03/21/2008 has been entered. Claims 1-15 and 17 are cancelled and claim 16 is amended.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "immediately coating" in claim 16 is a relative term which renders the claim indefinite. The term "immediately coating" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One of ordinary skill would not be aware of how long a period of time one has to apply the treatment solution before the application of said treatment solution is not considered immediate.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (US PGPub 2001/0016249).

With regard to claim 16, Kitamura et al. teach an "Ink Jet Recording Material" (Title) made by the process shown in Figures 1-3 (Figure 1 shown here).

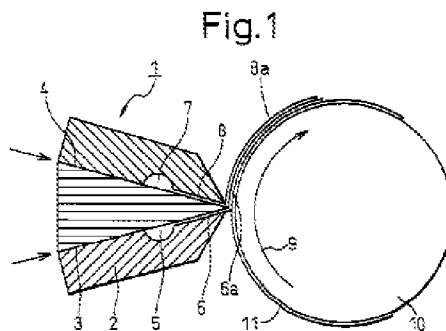


Figure 1 describes a process where a first ink-receiving (recording) layer **6a** has a second ink-receiving layer (treatment solution) **8a** simultaneously (immediately) coated thereon [0158]. These wet layers are then simultaneously dried by a drying means [0158]. At least one layer of the ink-receiving layers is comprised of an image light resistance-enhancing agent [0164], and preferably that image light resistance-enhancing agent is in the outermost ink-receiving layer [0168].

Kitamura et al. teach that the paper sheet for the substrate is “mainly formed from a wood pulp” this wood pulp “include[s] mechanical pulps, chemical pulps and re-used paper pulps” [0132], which read onto applicants’ “substrate having air permeability” (applicants’ claim 1). Applicants define in their disclosure different substances that they deem appropriate types of air-permeable supports (page 5, line 7-17).

The ink-receiving layers are made by “forming a recording stratum containing fine particles of a specific pigment comprising at least one member selected from silica, aluminosilicate and α -, θ -, δ - and γ -aluminas on the substrate” [0089]. Kitamura et al. also disclose that the recording stratum contains “a binder” wherein the “binder comprises at least one member selected from water-soluble polymers, for example, polyvinyl alcohol” [0143].

With regard to the image light resistance-enhancing agent, Kitamura et al. teach that the inkjet recording material “preferably contains an image light resistance-enhancing agent comprising at least one member selected from the group consisting of phenolic compounds, boric acid, borate salts and cyclodextrin compounds” [0165]. They further teach that with the phenolic compounds “[m]ore enhanced light resistance...can be obtained by using chlorides of divalent [metals] (sic) especially, magnesium chloride or calcium chloride” [0170].

Although Kitamura et al. disclose coating an ink-receiving underlayer of alumina and polyvinyl alcohol on a support having air permeability, and immediately coating a treatment solution (outer ink-receiving layer) comprising the abovementioned image

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light resistance-enhancing agents, and then drying the wet components, they fail to specifically disclose the drying method of pressing on a heated mirror surface while the recording layer is still wet and drying so as to confer 20° mirror gloss of 15% or more to said recording layer surface .

Kitamura et al. do reveal in the discussion of prior art that a “cast-coated paper sheet produced by contacting a wetted coating layer of the recording sheet with a mirror-finished peripheral surface of a heating drum under pressure, and drying the coating layer to transfer the mirror-like surface to the coating layer surface, is known” [0021] to [0023].

Calendering or heating under pressure is clearly a well-known method of making paper as it is seen in the description of related art of Kitamura et al. As such it would have been obvious to one having ordinary skill in the art at the time the invention was made to use this technique as the drying method of the inkjet recording medium of Kitamura et al.; furthermore, the results of using this method would have been predictable to one of ordinary skill in the field of papermaking. Specifically, Kitamura et al. recognize that such a treatment would impart high gloss, including the gloss claimed, and increased smoothness to the ink jet recording media [0023].

Additional evidence that the paper generated would have the claimed gloss values can be found Tables 2, 3, and 4, where numerous inventive examples have “excellent gloss,” including some examples that were evaluated at 20° to the recording surface [0303] and [0431].

Terminal Disclaimer

6. The terminal disclaimer filed on 03/21/2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 7,033,016 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

7. Applicant's arguments, see Remarks, filed 03/21/2008, with respect to the rejection of claim 16 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 7-13, 15-17, 19, and 20 of U.S. Patent No. 7,033,016 have been fully considered and are persuasive. The rejection of claim 16 has been withdrawn. Please see section 6 regarding the terminal disclaimer.

8. Applicant's arguments filed 03/21/2008 have been fully considered but they are not persuasive.

Applicants are arguing on page 4 of their Remarks that Kitamura et al. does not disclose a combined usage of borate salts, boric acid, and magnesium chloride. The Examiner respectfully maintains his position and disagrees with applicants' interpretation of the reference. First, Kitamura et al. do not rule out combining the image light resistance-enhancing agents; furthermore, the phrase "at least one member selected from the group consisting of phenolic compounds, boric acid, borate salts, and cyclodextrin compounds" [0165] teaches combining multiple image light resistance-

enhancing agents. Among the phenolic compounds mentioned at [0170] there is the phrase "[m]ore enhanced light resistance of the ink images recorded on the recording material can be obtained by using chlorides of divalent metals, especially, magnesium chloride." The Examiner maintains that Kitamura et al. teach that a phenolic compound combined with magnesium chloride, and the boric acid/borate salts at [0171] may be combined as the image light resistance-enhancing agent.

With regard to the Japanese references mentioned by applicants that are disclosed by Kitamura et al., while none of those disclosures teach the present invention, this does not mean that Kitamura et al. does not; further, it does not mean that the disclosure of Kitamura et al. is limited to what is disclosed in each of the Japanese references cited. As set forth in paragraph 5 above, it is clear Kitamura et al. teach a process as presently claimed that achieves gloss values as presently claimed.

Specifically, the Examiner is arguing that it would have been obvious to one having ordinary skill in the art to use the prior art drying processes disclosed in the prior art of Kitamura et al. [0021] to [0023] as the drying process of the inkjet recording sheets of Kitamura et al. The inkjet recording sheets of Kitamura et al. comprise all of the claimed materials of the recording layer solution and the treatment solution. An inkjet recording sheet with all the same materials dried with the same method would intrinsically comprise the gloss claimed in applicants' claim 16; furthermore, it would have been obvious to experimentally vary the temperature and pressure applied from the casting drum in order to impart the best possible gloss to the inkjet recording sheets.

Additionally, one can look to paragraphs [0455], [0462], and [0477] of Kitamura et al. where it is disclosed that the recording layers are pressed against heated mirror surfaces, and therefore it clearly would have been obvious to do so to any of the papers of Kitamura et al.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 7:30am-5pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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